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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/525,133	Applicant(s) AUBERGER ET AL.
	Examiner Allen Wong	Art Unit 2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 16 February 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 1-12 are objected to because of the following informalities: in line 1 of claim 5, the phrase "claims 1 to 4" is improper because it can lead to multiple claim dependencies and confusion. In line 1 of claim 6, the phrase "claims 1 to 5" is improper because it can lead to multiple claim dependencies and confusion. In line 3 of claims 7-8, the phrase "claims 1 to 6" is improper because it can lead to multiple claim dependencies and confusion. Appropriate correction is required.

Claims 1-7 and 9-12 contain terms with parentheses, for instance, for claim 1, line 2, "(OBJ)" should be deleted, also line 4 and 6, "(FLAG)" should be deleted. Similarly, claims 2-7 and 9-12 comprise terms with parentheses should also be deleted.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

subject matter (such as an article or material) to a different state or thing. While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

For example, claim 1, the method of encoding includes steps of "defining" and "encoding said shape" is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine.

The Applicant has provided no explicit and deliberate definitions of "defining" and "encoding said shape" to limit the steps to the electronic form of the method, and the claim language itself is sufficiently broad to read on a printout, mentally stepping through the §101 analysis.

For example, claim 9, the method of encoding includes steps of "retrieving", "decoding said shape", and "retrieving the shape" is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine.

The Applicant has provided no explicit and deliberate definitions of "retrieving", "decoding said shape", and "retrieving the shape" to limit the steps to the electronic form of the method, and the claim language itself is sufficiently broad to read on a printout, mentally stepping through the §101 analysis.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 7-8 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 7-8 define a *computer program product* embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed *computer program product* can range from paper on which the

program is written, to a program simply contemplated and memorized by a person. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen (6,208,693).

Regarding claims 1 and 10, Chen discloses an encoder and a method for encoding a digital video signal, said digital video signal comprising some sets of objects with associated shapes (col.3, ln.62 to col.4, ln.1 and fig.2A), characterized in that it comprises the steps of:

defining information for determining if the shape of an object (OBJ) is to be encoded, or its complement's one (col.3, ln.63 to col.4,ln.1 and col.4, ln.27-32, note the VOP to be encoded has object and some shapes, wherein the shapes are determined to be encoded; col.4, ln.39-49, note macroblocks are divided and evaluated for determination of whether the object is to be encoded), and

as a function of this information, encoding said shape or its complement (col.4, ln.39-49, note macroblocks are divided and evaluated for determination of whether the object is to be encoded, and when the mode is determined, note the

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"first_shape_code" is obtained, and eventually, the shape data is coded at VLC element 218 of fig.2A).

Regarding claim 2, Chen discloses characterized in that the complement is the complement of an object in an image frame (col.4, ln.39-49, note the macroblock without the object or the complement of the object is the "macroblock outside the boundary").

Regarding claim 3, Chen discloses characterized in that a bounding box is associated with an object and the complement is the complement of an object within its bounding box (fig.3, Chen discloses a bounding box 310 with the object 315 and macroblocks with the object and macroblocks without the object, col.7, ln.11-21; also see fig.4 and col.7, ln.22-42).

Regarding claim 4, Chen discloses characterized in that it has a further step of encoding the bounding box coordinates of said object (col.7, ln.31 to col.8, ln.2, Chen discloses that the bounding box positions or coordinates of the object are encoded).

Regarding claim 5, Chen discloses characterized in that the information is activated when an object has a bounding box with frontiers in common with an image comprising said object (fig.3, Chen discloses a bounding box 310 with the object 315 and macroblocks with the object and macroblocks without the object, and also the macroblocks with frontiers or boundaries are also taken into consideration, col.7, ln.11-21; also see fig.4 and col.7, ln.22-42).

Regarding claim 6, Chen discloses characterized in that when the bounding box of an object is greater than the bounding box (BOUND_BOX) of its complement its

complement's shape is encoded (col.7, ln.31 to col.8, ln.2, Chen discloses that the bounding box positions or coordinates of the object are encoded, and note the macroblock shape is to be determined to be encoded with a first_shape_code with data from macroblocks from outside the object, inside the object or boundary).

Regarding claim 7, Chen discloses a computer program product for an encoder, comprising a set of instructions, which, when loaded into said encoder, causes the encoder to carry out the method (col.4, ln.4-9, note disclosure of computer network or some storage media).

Regarding claim 8, Chen discloses a computer program product for a computer, comprising a set of instructions, which, when loaded into said computer, causes the computer to carry out the method (col.4, ln.4-9, note disclosure of computer network or some storage media).

Regarding claims 9 and 11, Chen discloses a decoder and a method for decoding a digital video signal, said digital video signal comprising some sets of objects (OBJ) with associated shapes (col.4, ln.7-9 and fig.2B), characterized in that it comprises the steps of:

retrieving information, which determines if the shape of an object (OBJ) has been encoded or its complement's one (fig.2B, note VLD 232 obtains and retrieves the "first_shape_code" that comprises the shape information of the object, col.5, ln.61 to col.6, ln.2),

as a function of said information (FLAG), decoding said shape or its complement

(col.5, ln.61 to col.6, ln.2, fig.2B, element 232 is the variable length decoder for decoding the shape data), and

if the complement has been decoded, retrieving the shape as a function of said complement (col.6, ln.39-55, Chen discloses the retrieval and reconstruction of the shape data and the shape mask that comprises the data of the shapes that identifies which specific pixel is located inside or outside the video object and reconstruct the video object for display).

Regarding claim 12, Chen discloses a video communication system (fig.2A-2B is a video communication system), which is able to receive a digital video signal, comprising a transmitter (REC) with an encoder (ENC) as claimed in claim 10 for encoding said video signal (col.3, ln.56-59, fig.2A, element 202 is the encoder terminal that encodes and transmits to the decoder of fig.2B), a transmission channel for transmitting the encoded video signal and a receiver with a decoder as claimed in claim 11 for decoding said encoded video signal (col.3, ln.59-61, fig.2B, element 230 is the decoder that decodes the video signal as encoded by fig.2A as received over the transmission channel).

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 7-8 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The addition of new matter, "a computer program

product for an encoder (ENC), comprising a set of instructions, which, when loaded into said encoder (ENC), causes the encoder (ENC) to carry out the method", and "A computer program product for a computer, comprising a set of instructions, which, when loaded into said computer, causes the computer to carry out the method" are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear as to what claim 12 is dependent on since it discusses claim 10 and claim 11, and provides confusion as to the scope of the claim. Appropriate correction is required.

Claim 5 recites the limitation "a bounding box" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

The term "it" or "its" or "this" in claim 1, 3, 4, 6 and 9-11 is a relative term which renders the claim indefinite. The term "it" or "its" or "this" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and

one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Primary Examiner
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